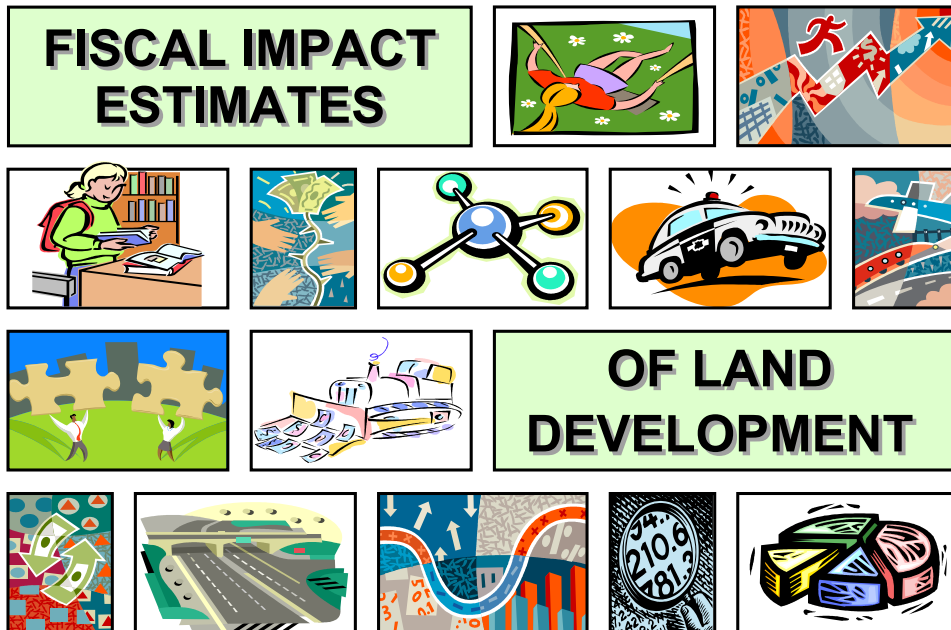


Introduction and Preliminary Results of the FIELD Model



January 2007

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A consolidated city-county agency serving the cities of Plant City, Temple Terrace,
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Introduction and Preliminary Results of the FIELD Model

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Executive Summary

This report introduces the Fiscal Impact Estimates of Land Development (FIELD) model. FIELD was designed with dynamic simulation software and developed with detailed local data and assumptions to represent the complex relationships among the comprehensive plans, operating and capital budgets, tax and fee structures, Level of Service (LOS) standards, and economic projections of local jurisdictions.

FIELD's strengths emerge from being specifically designed for Hillsborough County, from using more budget detail, from its focus on a comprehensive plan perspective, and from using Powersim software. With FIELD, levels of service, sources of revenues and land use patterns can be changed via policy levers to achieve financial feasibility of the Comprehensive Plan. FIELD's model structure and relationships are defined using easy-to-understand flow-charts with underlying equations and clarifying source documentation attached to each variable.

FIELD is explicitly designed to address the question of financial feasibility of the Comprehensive Plans of Hillsborough County and the Cities of Plant City, Tampa and Temple Terrace, as mandated by Florida Statute [Chapter 163.3191(2)(c)].

FIELD follows a modified average cost approach similar to other fiscal impact models. For this report, FIELD was applied to address one central question:

What is the fiscal impact on revenues and expenditures of Hillsborough County government as a consequence of new development anticipated under the adopted Comprehensive Plan?

Preliminary Results

The FIELD model estimates the net fiscal impact of projected growth in Hillsborough County over a twenty-year horizon. FIELD's cumulative estimate on the operating and capital budgets (combined) of Hillsborough County is negative \$3.273 billion, and on the capital budget of the Hillsborough County School District is negative \$339 million. These estimates are considered preliminary and an effort was made to avoid overstating the potential negative impacts.

Hillsborough County's \$3.3 billion dollar negative net impact is produced by a \$4.0 billion negative net capital impact offset by a \$747 million net operating surplus. The cumulative capital costs of roads for the Unincorporated County contribute over \$3.2 billion alone and this does not include significantly higher roadway cost estimates that FDOT has released.

FIELD enables the user to test alternative policy options, for example, policies to eliminate negative fiscal impacts or policies to fund higher (or lower) Levels of Service. These options currently include changing Level of Service standards and/or tax rates or fees. Impacts based on land use policies require additional data collection and input.

Preliminary results from FIELD reveal the degree to which alternative policies can address the negative net impact from growth. Impact fees, by definition, will always be sufficient to eliminate the negative net impacts from growth. But lower impact fees may be possible if other revenue sources are used, if policies to provide lower levels of service are enacted, or if policies to create more efficient land use patterns are adopted.

Applying existing policy—revenue structure, costs and projections—**FIELD’s overall result is that the County’s Comprehensive Plan is not financially feasible.** Policy options that create financially feasible scenarios are depicted in **green** and non-financially feasible policy option scenarios are depicted in **red**. The first scenario below indicates that the combined (parks, fire and transportation) impact fee for a typical three-bedroom detached single family home must be \$13,133 to offset the negative net fiscal impacts projected from the current County Comprehensive Plan.

By lowering road standards from LOS D to LOS E and by requiring more compact, urban growth patterns in the County (see Scenario 3), the total impact fees required to be financially feasible might be as little as \$7,287. Scenario 3 would require a substantial change in our collective vision for the County and Cities. In this scenario, some of the negative net impact has shifted to the Cities (see page 11 for details), but the Cities’ negative net impacts should be significantly smaller. Encouraging the Cities to accommodate more growth should be possible with a creative revenue sharing plan from the savings realized from more efficient patterns and locations of growth.

Summary of County Scenarios (Excludes Schools)		Net Fiscal Impact	Total Impact Fees
Current Comprehensive Plan		- \$3.273 billion	\$1,878
Scenario 1	Impact Fees only	Breakeven	\$13,133
Scenario 2	Road LOS E only (lowered from LOS D)	- \$2.878 billion	\$1,878
	Road LOS E & Impact Fees	Breakeven	\$11,775
* Scenario 3	Compact, Urban Growth only	- \$1.703 billion	\$1,878
	Compact, Urban Growth & Road LOS E	- \$1.483 billion	\$1,878
	Compact, Urban Growth, Road LOS E & Impact Fees	Breakeven	\$7,287

* Scenario 3 simulating more compact and more urban locations of growth is representative only (see page 11 for details), and requires additional research.

The column—Total Impact Fees—represents the sum of the County’s parks, fire and transportation impact fees for a typical three-bedroom single-family home (averaged across impact fee zones).

Alternative policy options for schools were also simulated showing results with combinations of higher impact fees and a ¼-cent or ½-cent sales tax.

Summary of School Scenarios		Net Fiscal Impact	School Impact Fees
Current Comprehensive Plan w. \$4,000 Impact Fee		- \$ 339 million	\$4,000
Scenario 1	Impact Fees only	Breakeven	\$6,260
Scenario 2	½-Cent Sales Tax only	\$ 48 million	\$4,000
	¼-Cent Sales Tax only	- \$ 102 million	\$4,000
	¼-Cent Sales Tax & \$4,980 Impact Fee	Breakeven	\$4,980

When considering these preliminary FIELD results, it must be remembered that a balanced net fiscal impact of *new* growth may be achieved, but significant *existing* deficiencies may remain. Also, policy changes to “balance” net growth impacts may generate significant changes in revenues and expenditures from existing development that are not currently simulated in the model. For example, the ½-cent sales tax for schools generates about \$1.8 billion of additional revenue from the existing tax base.

This initial report covers only Hillsborough County and the Hillsborough County School District, but FIELD includes the cities of Plant City, Tampa and Temple Terrace. This adaptation allows users to see how land use decisions in one jurisdiction affect other jurisdictions, and to compare their fiscal abilities to provide public services.

The ultimate goal is a credible, usable model with enhancements drawn from the best models in the world, including greater spatial analysis, to accurately represent the fiscal situation of our local jurisdictions in the context of land use policy decisions.

Peer Review Evaluation of FIELD

These enhancements increase FIELD’s ability to provide additional information for more fiscally sound land use decisions. Meanwhile, the current FIELD model received an “excellent” rating in a peer review evaluation conducted in April, 2006 by Dr. Robert W. Burchell, Ph.D. — a foremost expert in fiscal impact analysis at the Center for Urban Policy Research at Rutgers University. Among other findings, the evaluation states:

- FIELD “provides reasonable fiscal results;”
- There are NO “other models more appropriate to the task;” and
- There are NO “other models intellectually more rigorous.”

The peer review also recommended that local Hillsborough County governments need to endorse FIELD and make it available for land-use decisions. However, as with any fiscal analysis, FIELD should not be used as the sole reason for making a land use decision, but rather as a tool for informing and guiding decision-makers.

Introduction

This report introduces the Fiscal Impact Estimates of Land Development (FIELD) model. FIELD was designed with dynamic simulation software and developed with detailed local data and assumptions to represent the complex relationships among the comprehensive plans, operating and capital budgets, tax and fee structures, Level of Service (LOS) standards, and economic projections of local jurisdictions.

The FIELD model supplants available static spreadsheet models, including the proprietary FISCALS model (developed by TischlerBise) and the State-supported FIAM model (developed by Fishkind & Associates).

FIELD's strengths emerge from being specifically designed for Hillsborough County rather than a one-size fits all model, from using actual, detailed budget data, and from using Powersim software (rather than a spreadsheet). In the Powersim program, levels of service, sources of revenues and land use patterns can be changed via policy levers to achieve financial feasibility of the Comprehensive Plan. These valuable capabilities come with a graphic model-design that is more readily understood by users.

This report presents a brief introduction to the model's structure and approach, preliminary results (and caveats) attained with FIELD, results from a peer review evaluation of the FIELD model, and an outline of future steps.

Model Approach & Structure

FIELD is explicitly designed to address the question of financial feasibility of the Comprehensive Plans of Hillsborough County and the Cities of Plant City, Tampa and Temple Terrace, as mandated by Florida Statute.¹

FIELD follows a modified average cost approach similar to FIAM and FISCALS. As such, the current version addresses one central question: *What is the fiscal impact on revenues and expenditures of Hillsborough County government as a consequence of new development anticipated under the adopted Comprehensive Plan?*

The FIELD model follows the approach of FISCALS by utilizing detailed local budgets, rather than FIAM's standardized, abridged accounts available from the State. The inclusion of policy levers and indicator gauges in FIELD allow users to easily

¹ The financial feasibility of implementing the comprehensive plan and of providing needed infrastructure to achieve and maintain adopted level-of-service standards and sustain concurrency management systems through the capital improvements element, as well as the ability to address infrastructure backlogs and meet the demands of growth on public services and facilities. [Florida Statute, Chapter 163.3191(2)(c)]

manipulate key assumptions about Levels of Service, tax and fee rates, and land use decisions. These features enable routine sensitivity and policy analysis.

This initial report includes only Hillsborough County and the Hillsborough County School District, but FIELD has been designed with the cities of Plant City, Tampa and Temple Terrace. This adaptation allows users to see how land use decisions in one jurisdiction affect other jurisdictions, and to compare their fiscal abilities to provide public services.

The ultimate goal is to create a credible, usable model adding enhancements that utilize best practices from models around the country, including greater spatial analysis, to accurately represent the fiscal situation of Hillsborough County, the Hillsborough County School District, and the cities of Plant City, Tampa and Temple Terrace in the context of land use policy decisions.

From a design perspective, a model's software must aid in understanding the model structure and its interpretation, and build trust in the integrity of the data, assumptions and model equations.

Excel spreadsheets are accessible, but are difficult to read, to track through equations and cell references, to understand relationships, and to test their integrity. In very complex models, like fiscal impact analysis, these characteristics of spreadsheets lead to errors.

By contrast the FIELD model developed in Powersim is written in flow-chart form with underlying equations using variable names. The model relationships are graphically displayed with source documentation attached to each variable and equation.

Describing variables through time is a central feature of dynamic simulation software, like Powersim, and simplifies the model structure compared to spreadsheets. Powersim also handles data in arrays so that only one equation is needed in situations where spreadsheets might require dozens or hundreds. The array-handling capability also facilitates the creation of multi-jurisdiction models and spatially-oriented variables.

Powersim provides a better software platform to create a more user-friendly, understandable fiscal impact model. It also enables users to more easily modify the program for multiple jurisdictions and add other enhancements.

Preliminary Model Results

In this initial report, the FIELD model addresses the following basic question:

What is the fiscal impact over a twenty-year Comprehensive Plan horizon of projected growth in Hillsborough County on the operating and capital budgets of Hillsborough County and on the capital budget of the School District of Hillsborough County?

As depicted in Figure 1 below, the net fiscal impact on the combined operating and capital budgets of Unincorporated Hillsborough County is **negative \$3.273 billion** (negative \$4.0 billion for the capital budget alone, and \$747 million for the operating budget). The net fiscal impact on the capital budget of Hillsborough County School District is **negative \$339 million**. These estimates are considered preliminary and an effort was made to avoid overstating the potential negative impacts.

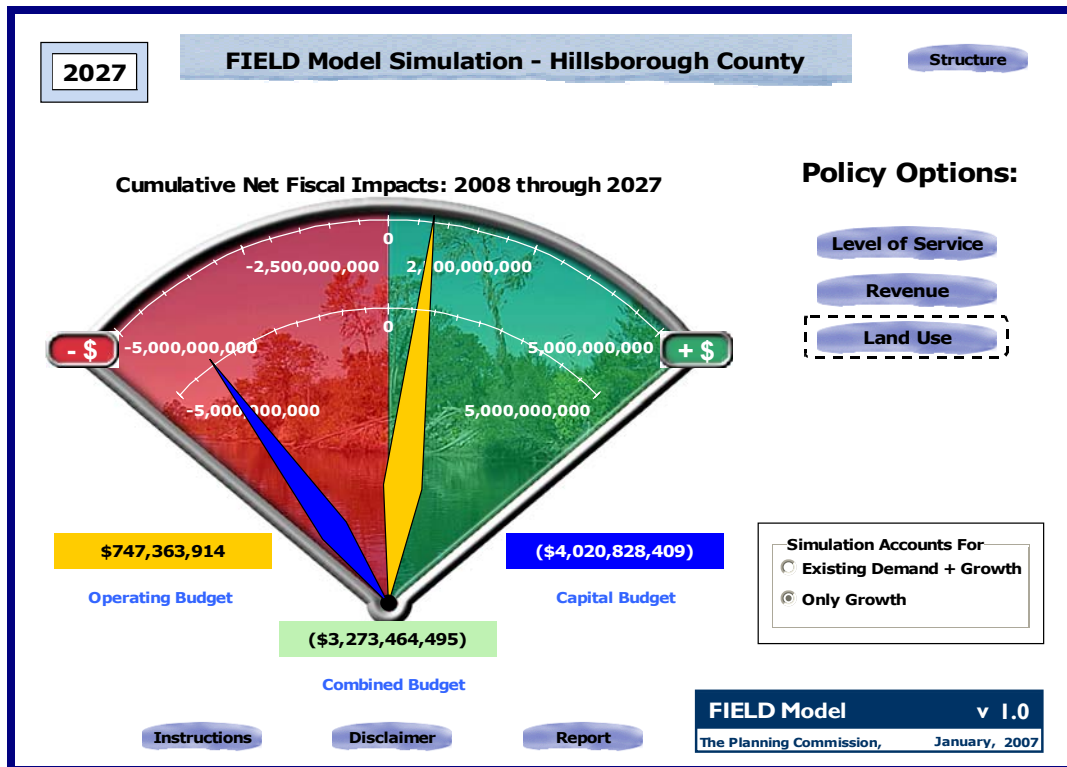


Figure 1: Screenshot of FIELD's simulation page for Hillsborough County.

The FIELD model allows users to adjust variables and simulate alternative scenarios. But excess capacities (e.g., County parks), existing deficiencies (e.g., County roads) and the impacts of policy changes that affect revenues and expenditures from existing development (e.g., raising levels of service or lowering ad valorem millage rates) are not considered by the FIELD model, as currently designed. These capabilities are being added, but are not yet complete.

For now, it is important to remember when using this model:

- 1) that a balanced net fiscal impact of *new* growth may be achieved, **but that significant existing deficiencies may remain.**
- 2) that policy changes made to “balance” the net impact of growth from new development, may generate significant changes in revenues and expenditures from existing development.

Total County Budget: The annual net impact for Hillsborough County is negative throughout the 20-year planning horizon, therefore the cumulative net impacts become increasingly negative throughout. Their paths over time are depicted in Figure 2 below.

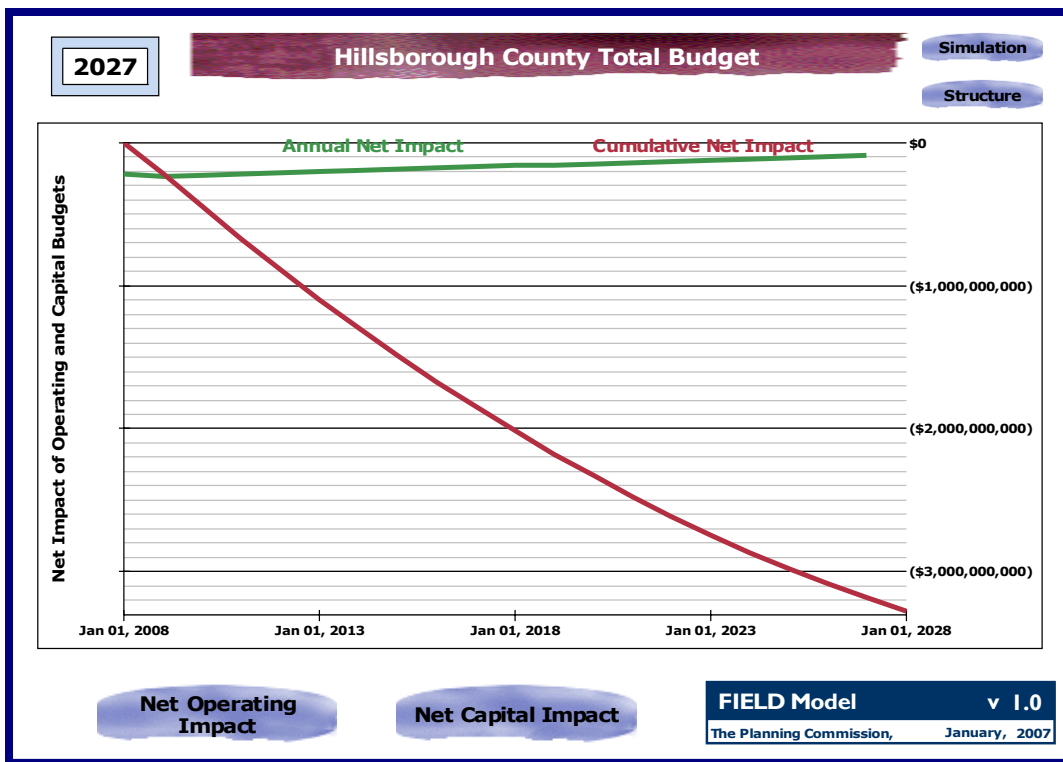


Figure 2: Screenshot of FIELD model’s simulation of Hillsborough County’s combined budget.

The \$3.3 billion dollar negative net impact for Hillsborough County is produced by a \$4.0 billion negative net capital impact partially offset by a \$747 million net operating surplus.

County Operating Budget:

The annual net impact on Hillsborough County's operating budget turns positive in 2012 and the cumulative net impact turns positive in 2015 as depicted in Figure 3. After 20 years, the cumulative net impact is over \$700 million.

Some future operating costs are currently underestimated as the expansion of capital infrastructure creates additional demand for operating personnel.

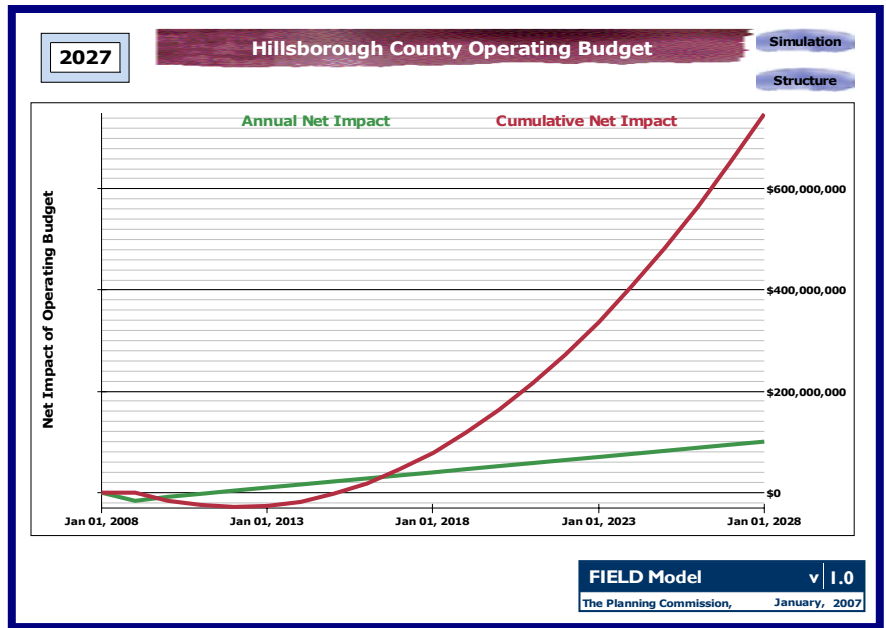


Figure 3: Screenshot of FIELD model's simulation of Hillsborough County's operating budget.

County Capital Budget: The annual net impact on Hillsborough County's capital budget remains negative throughout the 20-year planning horizon, thus the cumulative net impact declines throughout, reaching over \$4.0 billion by 2027 (see Figure 4). The cumulative capital costs of roads for the Unincorporated County contribute over \$3.2 billion alone—far and away the largest component of capital costs.

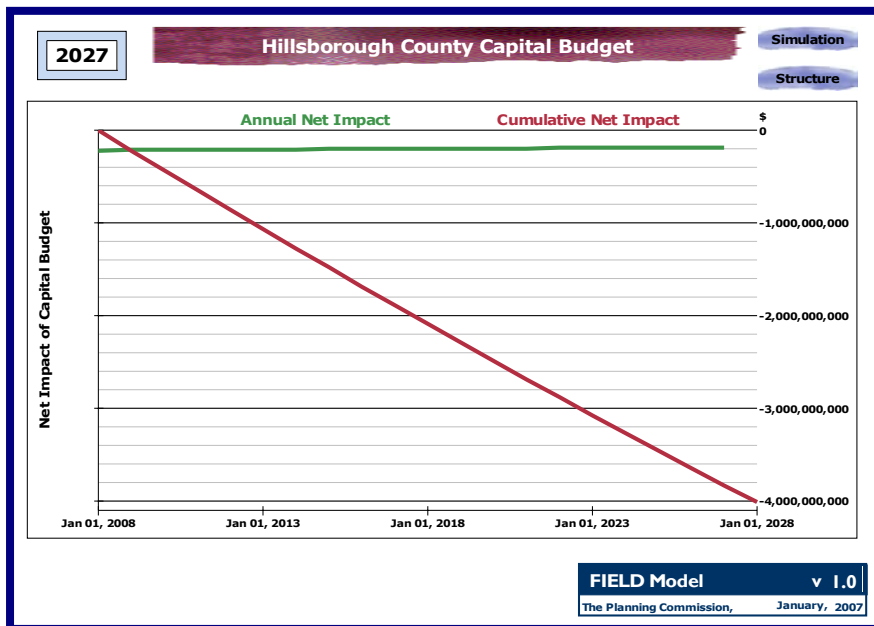


Figure 4: Screenshot of FIELD model's simulation of Hillsborough County's capital budget.

The FIELD model's road cost estimates are significantly higher than those that FISCALS and FIAM generated, in part, because both spreadsheet models used 33,000 trips instead of 8,500 trips for the vehicle per lane capacity—roughly equivalent to attributing the flow of a four-lane arterial to a single lane. The FIELD model's estimate is more reasonable compared with the MPO's 2025 Long Range Transportation Plan which estimated \$7.3 billion of

policy-constrained transportation projects over a shorter 15-year period.

Estimates of capital costs relied on analysis reported in the *Comprehensive Impact Fee Study, Phase IV: Final Report* (Duncan Report) prepared for Hillsborough County in June, 2004. We anticipate seeing significant increases when FIELD is updated with new costs.

Sensitivity to Policy Options

The FIELD model enables users to easily test alternative policy options to eliminate negative fiscal impacts, including lowering Levels of Service (LOS) and/or raising revenues. Impacts based on changing land use policies require further research, but scenarios are provided below that are representative of the direction of such land use impacts.

Scenarios for Hillsborough County (excluding schools)

Scenario 1): What impact fees must be assessed to eliminate the negative \$3.3 billion fiscal impact on Hillsborough County government (not including schools)?

The FIELD model enables the user to raise and lower impact fees. Each fee lever is calibrated from zero to the legally maximum impact fee for a three-bedroom, single-family detached dwelling (based on the Duncan Report, though modified for roads²). The initial fee is then set at the current impact fee for a three-bedroom, single-family detached dwelling (averaged across geographic zones). The initial impact fees are:

- \$ 49 Fire/Rescue impact fee (27% of the \$182 legal maximum)**
- \$ 354 Park impact fee (37% of the \$948 legal maximum)**
- \$ 1,475 Road and Right-of-Way impact fee (12% of the \$12,517 legal maximum)**
- \$ 1,878 TOTAL (for Hillsborough County, excluding schools)**

When the user changes an impact fee amount, the FIELD model changes the entire schedule of impact fees in equal proportion then calculates impact fee revenue according to the amount of projected new development by type.

² The Duncan report estimated a \$3,008 road and Right-of-Way (ROW) impact fee. We have modified five assumptions from the Duncan report. The Duncan report assumed: (1) 82.3 percent of new roads were built to urban standards (17.7 % to rural standards); we assume 100 percent urban—that new roads are no longer built at rural standards. (2) ROW costs are an additional 41.3 percent of road project costs; due to rising land prices we assume 100 percent. (3) The ROW cost percentage was applied to road project costs after revenue credits were deducted; we deduct the revenue credits after applying the ROW cost percentage. (4) With acknowledgement that it was conservative, half the cost of widening projects was not attributed to new growth, but to maintenance for existing development in the Duncan report; we assume full cost of widening projects. (5) LOS D was represented by a lane-mile capacity of 7,500; we assumed 8,500. These five changes in assumptions lead to a potential full-cost impact fee of \$12,517.

Absent any other policy changes, the following impact fees (typical for a three-bedroom single-family house) are projected to eliminate the \$3.3 billion deficit created by new development.

- \$ 173 Fire/Rescue impact fee (95% of the \$182 legal maximum)
- \$ 900 Park impact fee (96% of the \$948 legal maximum)
- \$12,060 Road and Right-of-Way impact fee (96% of the \$12,517 legal maximum)
- \$13,133 TOTAL (for Hillsborough County, excluding schools)

This policy alternative would increase impact fees by \$11,255 per house— 7 times greater than current levels.

Scenario 2): What is the fiscal impact of projected growth in Hillsborough County on the operating and capital budgets of Hillsborough County, if LOS standards for roads are lowered from D to E? What impact fees must be assessed to eliminate any negative fiscal impacts that remain after lowering the LOS for roads from D to E?

Lowering LOS for roads from the standard of D (the average adopted in the Comprehensive Plan for urban roads) to E, assumes that more vehicles will travel on each lane, thereby creating (or accepting) more congestion, but requiring fewer new road widenings.³ State law may preclude lowering the LOS standard to E for all roads, so the savings depicted in this scenario represents a potential upward bound that may not be legally possible.

Choosing a LOS of E for roads, lowers the cumulative net fiscal deficit to \$2.878 billion—a savings of \$395 million.

The FIELD model projects the following impact fees (typical for a three-bedroom single-family house) to eliminate the \$2.878 billion deficit created by new development assuming a LOS standard of E.

- \$ 160 Fire/Rescue impact fee (88% of the \$182 legal maximum)
- \$ 765 Park impact fee (81% of the \$948 legal maximum)
- \$ 10,850 Road and Right-of-Way impact fee (99% of the \$10,962 LOS-E maximum)
- \$ 11,775 TOTAL (for Hillsborough County, excluding schools)

³ Hillsborough County MPO staff calculated the following average LOS standards using current Florida Department of Transportation LOS Tables for the County: LOS A = 2,100 vehicles-per-lane capacity, LOS B = 4,300 vehicles-per-lane capacity, LOS C = 6,100 vehicles -per-lane capacity, LOS D = 8,500 vehicles -per-lane capacity and LOS E = 9,500 vehicles -per-lane capacity. These standards represent an update of the 7,500 vehicles -per-lane capacity that has been assumed in most County studies by convention since that number was first used in the late 1980s by the initial County Impact Fee Ordinance. The FIELD model uses the updated LOS standards as policy options and to calculate potential impact fees that vary by the option chosen.

This policy alternative would increase impact fees by \$9,897 per house—over 6 times greater than current levels, and \$1,358 less than required without lowering LOS standards for roads from D to E.

Scenario 3 (below) would require a substantial change in our land use planning for the County and Cities. It also requires additional research to ensure accurate results, but is presented here as an illustration of the direction and potential scale of impacts from land use policy changes.

Scenario 3): What is the fiscal impact of projected growth in Hillsborough County on the operating and capital budgets of Hillsborough County, if some growth is shifted to the Cities and is developed in a more compact fashion? What average impact fees are needed to eliminate any remaining negative fiscal impacts on the County with more compact, urban growth and if LOS standards for roads are lowered from D to E (as in Scenario 2)?

An alternative forecast was created in which the annual growth in population, employment and dwelling units for each of the three cities was doubled and the growth of the Unincorporated County was reduced by an equivalent amount. In addition, new development was assumed to be 25% more compact (generating fewer and shorter vehicle trips). These two changes generated a negative net fiscal impact of \$1.703 billion—saving \$1.570 billion for the County.

Negative impacts for the Unincorporated County decrease for three key reasons: vehicle miles traveled (VMT) falls as development moves closer to the Cities, VMT falls further as compact, mixed land-use development encourages fewer and shorter automotive trips, and finally, some costs (and revenues) shift to the Cities with the growth.

In this scenario, some of the negative net impact has shifted to the Cities, but the Cities' negative net impact should be significantly smaller. Encouraging the Cities to accommodate more growth should be possible with a creative revenue sharing plan from the savings realized from more efficient patterns and locations of growth.

Choosing a LOS of E for roads and choosing more compact growth in more urban locations, leaves a remaining cumulative net fiscal deficit of \$1.483 billion—a savings of \$1.790 million. The FIELD model projects the following impact fees to eliminate this remaining deficit.

- \$ 137 Fire/Rescue impact fee (75% of the \$182 legal maximum)
- \$ 650 Park impact fee (69% of the \$948 legal maximum)
- \$ 6,500 Road and Right-of-Way impact fee (59% of the \$10,962 LOS-E maximum)
- \$ 7,287 TOTAL (for Hillsborough County, excluding schools)

This policy alternative would increase impact fees by \$5,409 per new house—to 3.9 times greater than current levels, and \$5,846 less than required without lowering road LOS standards to E and changing land use patterns.

The model simulations described above illustrate how FIELD can be used to explore various policies and combinations of policies for creating financially feasible comprehensive plans. The results of these simulations are summarized in Table 1 (below) with financially feasible policy options in **green** and non-financially feasible policy options in **red**.

Table 1: Summary of County Scenarios (Excludes Schools)		Net Fiscal Impact	Total Impact Fees
Current Comprehensive Plan		- \$3.273 billion	\$1,878
Scenario 1	Impact Fees only	Breakeven	\$13,133
Scenario 2	Road LOS E only (lowered from LOS D)	- \$2.878 billion	\$1,878
	Road LOS E & Impact Fees	Breakeven	\$11,775
* Scenario 3	Compact, Urban Growth only	- \$1.703 billion	\$1,878
	Compact, Urban Growth & Road LOS E	- \$1.483 billion	\$1,878
	Compact, Urban Growth, Road LOS E & Impact Fees	Breakeven	\$7,287
* Scenario 3 simulating more compact and more urban locations of growth is representative only, and requires additional research.			
The column—Total Impact Fees—represents the sum of the County’s parks, fire and transportation impact fees for a typical three-bedroom single-family home (averaged across impact fee zones).			

Scenarios for Hillsborough County Schools

Schools Scenario 1): How does the higher \$4,000 school impact fee affect fiscal balances for the Hillsborough County School Board?

An impact fee of \$4,000 for a three-bedroom, single-family detached dwelling leaves a cumulative deficit of \$339 million. A fee of \$6,260 is necessary to clear the remaining deficit.

Schools Scenario 2): Alternatively, if a ½-cent retail sales tax is assessed for school capital costs (in addition to the \$4,000 impact fee), what is the net fiscal impact on the Hillsborough County School Board? What is the impact of a ¼-cent retail sales tax? What impact fee is required to eliminate any remaining negative fiscal impact?

A ½-cent sales tax would raise as much as \$387 million (an upward bound), creating a positive net fiscal impact of \$48 million. The actual revenue increase would be slightly smaller as people respond to the higher tax by purchasing less, and by shifting their

purchases to adjacent counties,⁴ especially for in-commuters and out-commuters. As much as \$1.8 billion (an upward bound) of additional revenue would be raised from the existing population and employment base to help pay for existing infrastructure deficiencies and past debt.

A ¼-cent sales tax would raise nearly \$194 million, leaving a deficit of over \$145 million. The remaining deficit could be eliminated by increasing the impact fee further to \$4,980.

FIELD results for alternative school financing policies are summarized in Table 2 (below) with financially feasible policy options in **green** and non-financially feasible policy options in **red**.

Table 2: Summary of School Scenarios		Net Fiscal Impact	School Impact Fees
Current Comprehensive Plan w. \$4,000 Impact Fee		- \$ 339 million	\$4,000
Scenario 1	Impact Fees only	Breakeven	\$6,260
Scenario 2	½-Cent Sales Tax only	\$ 48 million	\$4,000
	¼-Cent Sales Tax only	- \$ 102 million	\$4,000
	¼-Cent Sales Tax & \$4,980 Impact Fee	Breakeven	\$4,980

Assumptions that suggest negative impacts are underestimated:

- While capital expenditures explicitly recognize adopted Level of Service (LOS) standards, operating expenditures are still based on defacto (or annual budget) LOS standards (perpetuating existing deficiencies). Projected expenditures may increase after changing operating budget assumptions that accurately reflect adopted LOS standards for key services like patrol deputies.
- Cost factors for most capital budget items are derived from the 2004 Duncan report. Due to cost increases since 2004, current model cost figures are conservative.
- Replacement costs (or annual depreciation) of schools, roads, jails and other major infrastructure are not presently accounted for in FIELD’s capital expenditure calculations, thus capital costs are underestimated.
- Impact fees for future development were based upon averages across types and zones without regard to no-fee zones and exceptions for nonprofits, government structures and other development that may receive an impact fee exemption or reduction. Thus future impact fee revenue is currently overestimated by the model.

⁴ The price elasticity of demand from an additional ½-cent sales tax is often too small to estimate accurately, but economists generally agree that a small negative effect on revenues exists.

Assumptions that suggest negative impacts are overestimated:

- FIELD assumes a stable relationship of about 160 students per thousand population (or 16.0 percent) over the 20-year planning horizon. In contrast BEBR's age cohort projections for Hillsborough County (June, 2005) predict the share of the 5-17 age cohort will fall (from 18.4 percent in 2005 to 17.0 percent in 2025). Fewer students for a given population increase would lower costs.

Peer Review Evaluation of FIELD

To assess the FIELD model's validity and credibility, the Planning Commission sought independent review of the model's methodology and assumptions. Dr. Robert W. Burchell, Ph.D. and Co-Director of the Center for Urban Policy Research (CUPR) at Rutgers University and a colleague, William Dolphin, also at CUPR, reviewed FIELD in April, 2006. Dr. Burchell is considered a foremost expert in fiscal impact analysis.

The peer review evaluation described the model as "excellent," and observed that:

- FIELD "provides reasonable fiscal results;"
- A positive fiscal impact result from FIELD is a "safe harbor;"
- FIELD could be appropriately applied to land use development programs, build-out analyses and major up/down zonings;
- There are NO "other models more appropriate to the task;" and
- There are NO "other models intellectually more rigorous."

Recommendations for improvements to FIELD are also included in the peer review evaluation. These have been incorporated into our outline of future steps.

Finally, the peer review recommended that local Hillsborough County governments need to endorse FIELD and make it available for land-use decisions. However, FIELD should not be used as the sole reason for making a land use decision, but rather as a tool for informing and guiding decision makers as they consider various land-use options.

Future Steps

- **Conduct a review** of FIELD with departments from each jurisdiction, and with interested private sector parties, to explain the methodology. Conduct necessary research, for example, to expand the data sample for taxable values and impact fees by property type and location. Modify methodologies and data to ensure an accurate representation of the fiscal impacts of development on each department.

The process should be carefully documented and a simpler process designed for annual reviews of assumptions and cost data in subsequent years.

- **Add enhanced features**, including:
 - a switch to simulate fiscal impacts with, or without (the current state), existing deficiencies and consideration of impacts on existing development, thereby fulfilling State mandates for testing financial feasibility of comprehensive plans.
 - a switch to simulate fiscal impacts with adopted LOS (the current state for capital costs) and actual LOS (based on budget expenditures—the current state for operating costs).
 - research to incorporate land consumption (acreage) data by development type.
 - research to incorporate impact of spatial location and pattern of development on operating expenditures of public works, police services, fire/rescue services and other relevant departments.
- **Improve/Correct ratings from peer review evaluation**, including:
 - better reporting functions, such as, expressing backlog as a percent of the total budget, expressing capital costs as a stream of payments and providing error ranges based upon sensitivity analysis of the model.
 - better documentation, such as, a tutorial for data entry and an expansion of the caveats on using the model.
 - better methods, such as, accounting for price elasticities, calculating school operating costs, accounting for debt service, assignment of costs among residential and nonresidential uses, employing socioeconomic factors by residential type, and accounting for vacation homes.
- **Optimize the programming code.** After incorporating programming changes in the FIELD model to address the critiques of internal and external reviews and to add the most critical enhanced features, then explore the benefits that Powersim programming experts may offer to enhance user friendliness and programming efficiency of the model.
- **Design future enhanced features, including:**
 - research to incorporate spatial data on vehicle miles traveled (trip rates and trip lengths) by relevant areas of the County.
 - links to REMI model forecasts of population, employment and housing (constrained to match BEBR's forecasts) to maintain internally consistent economic projections and derive feedback effects of policy changes (e.g., the effect of impact fees on relative housing prices among jurisdictions).



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